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Facsimile Cover Sheet

To: Hon. Commissioner for Patents, TC2100

From: Craig S. Fischer

Fax: (703) 872-9306

Pages: 72 (inclusive)

Re: Serial No.: 09/461,900
Filed: December 15, 1999
Attorney Docket No: MCS-116-99

Date: September 30, 2004

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CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8

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This correspondence includes the following attached papers:

1. Facsimile Cover Sheet including Certificate of Transmission under 37 C.F.R. § 1.8 (1 page);

2. Appeal Brief Transmittal Letter (2 pages);

3. Appeal Brief (15 pages each – in triplicate);

4. Appeal Brief Claims Appendix (7 pages each – in triplicate);

5. Credit Card Payment Form for $330.^{00} (1 page for Appeal Brief fee);

6. Petition for one-month Extension of Time (1 page);

7. Credit Card Payment form for $110.00 (1 page for one-month extension of time).

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this paper and every paper referred to therein as being enclosed is being facsimile transmitted to Mail Stop: Appeal Brief – Patents, Hon. Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, TC2100 at (703) 872-9306

on ___September 30, 2004___   (Date of Transmission)

___Craig S. Fischer___
By   (Print Name)   Signature

PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. Thomson

For: **SERVER RECORDING AND CLIENT PLAYBACK OF COMPUTER NETWORK CHARACTERISTICS.**

TRANSMITTAL OF APPEAL BRIEF

Mail Stop: Appeal Brief – Patents
Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
TC2100
Facsimile No.: (703) 872-9306

Sir:

Transmitted herewith in triplicate is an Appeal Brief in this application in support of the Notice of Appeal filed on June 30, 2004.
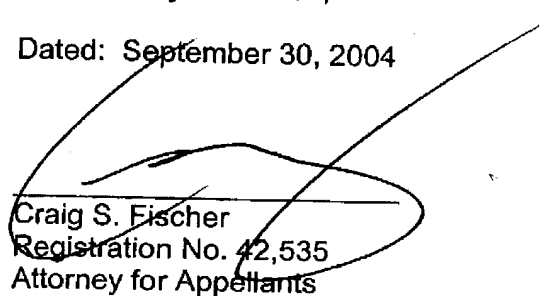
A Credit Card Payment Form in the amount of $330.00 to cover the fee for filing an Appeal Brief under 37 C.F.R. 1.17(c) along with a Credit Card Payment Form to cover the one-month extension of time are enclosed herewith.

Respectfully submitted,

Dated: September 30, 2004

Craig S. Fischer
Registration No. 42,535
Attorney for Appellants

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on _____ September 30, 2004 _____ (Date of Transmission)

Craig S. Fischer
By   (Print Name)   Signature

PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. THOMSON

For: **SERVER RECORDING AND CLIENT PLAYBACK OF COMPUTER NETWORK CHARACTERISTICS**

10/01/2004 NROCHA1 00000005 09461900

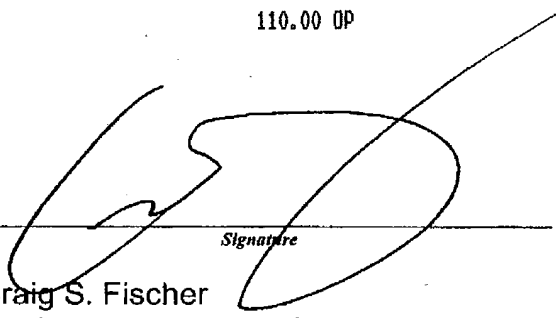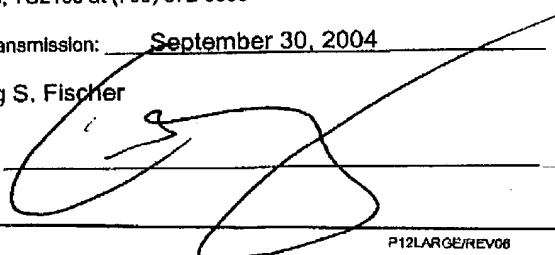01 FC:1402   330.00 OP

APPEAL BRIEF

REAL PARTY IN INTEREST

Microsoft Corporation owns the subject application in its entirety.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) (Large Entity)	Docket No. MCS-116-99

In Re Application Of: **NACE et al.**

Serial No. 09/461,900	Filing Date 12/15/1999	Examiner W. D. THOMSON	Group Art Unit 2123

Invention: **SERVER RECORDING AND CLIENT PLAYBACK OF COMPUTER NETWORK CHARACTERISTICS**

<u>TO THE HON. COMMISSIONER FOR PATENTS:</u>

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a response in the above-identified application.

The requested extension is as follows (check time period desired):

☒ One month   ☐ Two months   ☐ Three months   ☐ Four months   ☐ Five months

from: **08/30/2004**   until: **09/30/2004**
　　　　　Date　　　　　　　　　　　　　　　　Date

The fee for the extension of time is   **$110**   and is to be paid as follows:

☒ Payment by credit card. Form PTO-2038 is enclosed.

10/01/2004 NROCHA1 00000005 09461900
02 FC:1251   110.00 OP

_____
　　　　Signature

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Dated: September 30, 2004

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8
I hereby certify that this paper and every paper referred to therein as being enclosed is being facsimile transmitted to the Hon. Commissioner for Patents, TC2100 at (703) 872-9306

Date of Transmission: ___September 30, 2004___

By: Craig S. Fischer

Signature: _____

P12LARGE/REV06

STATUS OF THE CLAIMS

On June 30, 2004, Appellants appealed from a final rejection of claims 1-40. The final rejection was contained in a final Office Action dated March 1, 2004 (Paper No. 8).

The application was original filed with claims 1-38. In response to the Office Action dated September 10, 2003 (Paper No. 6), the Appellants amended claims 1, 16 and 20 to overcome Section 102(e) rejections. In addition, new claims 39 and 40 were added.

In response to the final Office Action dated March 1, 2004 (Paper No. 8), the Appellants filed an After Final Response on April 30, 2004, setting forth the elements and features that are missing from each of the cited references that are claimed by the Appellants. No changes were made to the claims. In addition, an Appellant-Initiated Interview Request form was submitted requesting a telephonic interview with Examiner Thomson regarding the Section 102(e) rejections.

On May 26, 2004, the Appellants' attorney, Craig S. Fischer, had a telephonic interview with Examiner W. D. Thomson. Examiner Thomson and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. This interview was made of record by the filing of a "Recordation of the Substance of an Applicant-Initiated Conversation under 37 C.F.R. 1.333" on May 26, 2004.

An Advisory Action was mailed on June 21, 2004. On June 24, 2004, the Appellants' attorney, Craig S. Fischer, had another telephonic interview with Examiner W. D. Thomson. Examiner Thomson stated that he still intends to send out a non-final Office Action clarifying his position. The Advisory Action was and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. No such paper was issued; a Notice of Appeal was filed on June 30, 2004.

STATUS OF AMENDMENTS

There were no amendments filed subsequent to the final rejection dated March 1, 2004 (Paper No. 8).

SUMMARY OF THE INVENTION

The Appellants' claimed invention includes a computer network simulation system and method for recording and playing back computer network characteristics (specification, page 3, lines 1-6). Network characteristics are recorded on a server and the recorded characteristics are played back on a client (specification, page 3, lines 6-8). The network characteristics are recorded by a filter located on the recording server (specification, page 4, lines 17-18).

The network simulation system includes a recording module that resides on a server and records and stores the network characteristics associated with network sessions into a data collector file (specification, page 3, line 28 to page 4, line 1). A playback module, which resides on a client, is used to play back the data collector file upon request (specification, page 4, lines 1-3). The data collector file includes a log file, which is used to store header information received from the client during recording, and a data file, which is used to store other data (specification, page 4, lines 3-7). The recording module also includes a registration module, which registers the recording module with the server operating system, a tracking module, which tracks users, and a log restriction/rolling module that prevents the recorded data from filling the available storage space on the server (specification, page 4, lines 7-12).

The simulation method includes a method for recording compute network characteristics on a server and playing back the recorded characteristics on a client (specification, page 4, lines 15-17). The recording portion of the method includes using a global filter that resides on a server to record network characteristics (specification, page 4, lines 17-18). Recorded information is stored in a data collector file that includes a log file and a data file (specification, page 4, lines 19-20). The playback portion of the method includes receiving the data collector file and playing back the data collector file to simulate the network characteristics of a real-world network session (specification, page 4, lines 20-

22). The playback method also includes varying the playback speed and multiplying the number of recorded users (or repeating the same recording a number of times if only one user was recorded) to vary the intensity of the recorded network characteristics (specification, page 4, lines 23-26).

The claims on appeal are set forth in the Appeal Brief Appendix provided hereto.

ISSUES

Claims 1-40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Landan (U.S. Patent No. 6,449,739), Marullo et al. (U.S. Patent No. 6,044,398), Straathof et al. (U.S. Patent No. 6,167,534), Abbott et al. (U.S. Patent No. 6,314,463), Mongan et al. (U.S. Patent No. 6,304,982), Rowe (U.S. Patent No. 6,324,492), Dantressangle (U.S. Patent No. 6,446,120), Bromberg et al. (U.S. Patent No. 5,819,066), and Sherman et al. (U.S. Patent No. 6,434,513) (hereinafter referred to collectively as "the cited art".

Claims 1-40 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (U.S. Patent No. 5,432,932).

GROUPING OF CLAIMS

Claims 1-5, 10-16, 18-23, 28-35, 39 and 40 stand or fall together, claims 6 and 7 stand or fall together, and claims 8, 9, 17, 24-27 and 36-38 stand or fall together.

THE EXAMINER'S RATIONALE

The Examiner's rationale for the §102(e) rejection of claims 1-40 was that each of the nine pieces of cited art listed above individually "teach the limitations as recited in claims 1-40." Further, the Examiner stated that "[A]s is clearly shown and delineated in each individual teaching, an equivalent filtering mechanism is provided in the server and the log is different and not the standard server log. The individual teachings of this separate log is to provide monitory and even logs for determining performance when using virtual or emulated client operations to test an application or web server."

The Examiner's rationale for the §102(b) rejection of claims 7-13, 29-32 and 35 was that Chen et al. "explicitly teaches the limitations in claims 1-40."

In the Advisory Action, the Examiner responded to the Appellants' arguments by stating that the "location of the recorder and filter functions is not patentably distinct over the teachings of the prior art, at best this is design choice and is believed covered by a number of the rejections. The record module can as easily be placed on clients, servers, in between both using a monitor or may be distributed across all three nodes in the network. These are well within the skill set and knowledge of one of ordinary skill level in this art, at the time of the Applicant's invention and therefore does not provide a patentable distinction over the cited art."

ARGUMENTS

The Rejection under 35 U.S.C. § 102(e) of Claims 1-40

It is the Appellants' position that the each of the cited art, namely Landan, Marullo et al., Straathof et al., Abbott et al., Mongan et al., Rowe, Dantressangle, Bromberg et al., and Sherman et al., lack at least one feature of the Appellants' claimed invention. Namely, each of these pieces of cited art as lacks the Applicants' claimed record module having a filter residing on a server. This patentable claimed feature is recited in each of the Applicants' claims.

On the other hand, each of these pieces of cited art do not teach the Applicants' claimed record module having a filter residing on a server. As explained in detail below, most of the cited art lack a record module located on the server, and others of the cited art lack a record module having a filter. In both situations the cited art is lacking the Applicants' claimed record module having a filter residing on a server. Each of the rejections will now be discussed in greater detail.

Independent Claim 1

Independent claim 1 of the Applicants' claimed invention includes a network

simulation system for simulating network characteristics. The system includes a record module having a _filter_ that _resides on a server_ and records network characteristics. The system also includes a data collector file that stores the recorded network characteristics for playback on a playback machine.

The filter is located on the record server. In this position, the filter uses its unique position to record and collect "more accurately the network characteristics being received by the server" and provide "more data on these network characteristics than other systems and techniques" (specification, page 3, lines 18-20). The filter actually captures network characteristics not present in server log files (specification, page 3, lines 16-18). This is due in part to the filter's location on the server. In particular, "[B]ecause of the way the ISAPI global filter was implemented into IIS the ISAPI global filter actually got called before ISS began processing the data. This feature can be useful for troubleshooting the network because by examining the log file [as recorded by the filter – this is different from the traditional server log files] it can be determined at what time a network problem occurred and what request may have caused the network problem" (specification page 24, lines 16-20). Thus, the Applicants' claimed invention includes a _filter_ that _resides_ on the record _server_ that records network characteristics not captured in server log files.

In contrast, Landan et al. merely disclose a recorder that resides on a controller computer. More specifically, as shown in FIG. 1 of Landan, recorder 34A is part of the controller that does not reside on the servers. Instead, the controller 34 resides on a controller computer 35, which is _not_ the transactional server 30 (col. 5, lines 31-33). Landan et al. are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics.

Marullo et al. merely disclose a _client-based_ website virtual browser application for web server application verification and testing (Abstract, lines 1-6; col. 1, lines 7-9, "Technical Field"; emphasis added). In particular, the _client-based_ website virtual browser application is also referred to as "webrunner" (col. 23-26). Referring to FIG. 3 of Marullo et al., the webrunner 30 loops through input data (col. 8, lines 18-22). The input data of the

webrunner 30 comes "either from an input data file 34 or alternatively from a user/tester employing GUI edit field input 36" (col. 8, lines 4-6). As shown in FIG. 3 of Marullo et al., both the input data file 34 and the GUI edit field input 36 resides on the client with the webrunner. Marullo et al. lack any disclosure of a record module on the web server 54. Marullo et al., therefore, are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics.

Straathof et al. merely disclose a _client-based_ system that captures "user interface and/or application calls to generate a script to emulate a user session" (Abstract, lines 2-4). The "Capture Agent" is the sub-system that "records user activities, including keystrokes, mouse movements and SQL requests, to create emulation scripts" (col. 4, lines 56-58). As shown in FIG. 5, Straathof et al., the "Capture Agent" _resides on the client side_ of the network. Straathof et al. lack any teaching of the "Capture Agent" residing on the server 254. Therefore, Straathof et al. are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics.

Abbott et al. merely disclose a system and method for managing web servers based on queue length and delay. An agent 106 in Abbott et al. captures performance information periodically to "monitor load on the web service system" (col. 11, lines 46-48). However, the Applicants' claimed record module having a filter is not taught. Moreover, Abbott et al. also lack the Applicants' claimed "data collector file that stores the record network characteristics _for playback_ on the playback machine." As mentioned above, the system and method of Abbott et al. are only for managing web servers, and not data is recorded for playback. Therefore, Abbott et al. are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics as well as the claimed feature of a data collector file that stores the recorded network characteristics for _playback_ on a playback machine.

Mongan et al. merely disclose a system that uses a server computer as a "central repository for all tests performed by any number of connected client computers . . . and

acts as a central repository for the results of these tests returned by the client computers" (col. 2, lines 56-61). The tests are on the server and sent to a client upon request for execution on the client (col. 4, lines 16-24). Storing tests and results of the tests on the server frees up storage space on the client (col. 4, lines 57-61). The tests stored on the server are either prewritten tests or automatically generated tests (col. 7, lines 4-14). However, as shown in FIG. 1 of Mongan et al., the server 104 <u>lacks</u> the Applicants' claimed record module <u>having a filter</u>.

Rowe merely discloses a method and a system that uses stored "simulated client profiles each representing an associated simulated client. As an example of such means, FIG. 5 shows a simulated client state array 102 that has stored therein the states of each of a plurality of simulated clients" (col. 10, lines 60-65). A simulated client is "defined in part by an associated client profile that includes, for example, a set of possible states of the simulated client, state transition rules that specify possible I/O requests to a server from the simulated client in any of the possible states and a relative frequency of each of the possible I/O requests" (col. 8, lines 66-67 to col. 9, lines 1-4). This stored information about a simulated client is used to stress a server. However, the server <u>lacks</u> the Applicants' claimed record module having a filter.

Dantressangle merely discloses a method and a system that uses pre-defined test files <u>located on the client</u> computers to stress test a server. Specifically, as shown in FIGS. 2-4 of Dantressangle, there is disclosed a "configurable stresser 200 [that] resides at the client or simulated client UNIX machine 102" (col. 5, lines 62-63). "Initially, a user generates a test guide file 402 that contains the instructions for testing the Web server 104" (col. 5, lines 66-67). The "test guide file 402 is a text file . . . that centralizes all the information necessary for the testing/stressing process" (col. 7, lines 31-33). As shown in FIG. 9 of Dantressangle, "a user can specify the test guide file 402 using a list box 902" (col. 10, lines 57-58). Once the test guide file has been generated by user selection, each "virtual Web browser 404 executes commands specified in the test guide file 402 by transmitting these commands to the Web server 104" (col. 6, lines 25-27). Thus, Dantressangle merely disclose pre-defined test files located on the client computers to

stress test a server. Nowhere does Dantressangle disclose the Applicants' claimed record module.

Bromberg et al. merely disclose a benchmarking application that uses benchmark transactions to submit to a database server. As shown in FIG. 6 of Bromberg et al., the benchmark transactions are generated for "submission to database server 14" (col. 11, lines 66-67). However, as can be seen from FIG. 6 and in column 12, lines 5-67, the generation of the benchmark transactions does not involve any type of record module having a filter, as claimed by the Applicants.

Sherman et al. merely disclose a method of load testing a web application using test scripts residing on a client computer. A test script "defines the behavior of the simulated clients" (col. 2, lines 5-6). Each simulated client "is implemented as a separate thread, generating HTTP request according to a predefined set of instructions, called a 'test script'" (col. 4, lines 40-41). Thus, Sherman et al. merely use predefined test scripts, and lack the Applicants' claimed record module.

Independent Claim 16

Independent claim 16 includes a network simulation system for playing back recorded network characteristics. The system includes a data collector file that contains network data that has been recorded by a filter that resides on a recording server. In addition, the system includes a playback module that resides on a playback machine and plays back the data collector file. The network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses a data collector file that contains network data that has been recorded by a filter that resides on a recording server.

Independent Claim 20

Independent claim 20 includes a method of simulating computer network

characteristics on a testing server. The method includes recording network data using a filter residing on a recording server, and storing the recorded network data. The method further includes playing back the recorded network data on a playback machine in communication with the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses recording network data using a filter residing on a recording server.

Independent Claim 34

Independent claim 34 includes a method of recording network characteristics. The method includes providing a server having an operating system, and registering a filter residing on the server with the operating system. The method further includes using the filter to capture network data containing the network characteristics, and storing the captured network data in a data collector file for playback.

As set forth above with regard to independent claim 1, none of the cited art discloses a registering a filter residing on the server with an operating system.

Independent Claim 39

Independent claim 39 includes a network simulation system for recording network characteristics of a computer network. The system includes a record module located on a server on the computer network. The system also includes a custom-generated log file generated by the record module that stores the recorded network characteristics. The custom-generated log file is not a server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses a record module located on a server on the computer network.

Independent Claim 40

Independent claim 40 includes a method of recording network characteristics on a computer network having a server. The method includes using a record module disposed on the server to produce a custom-generated log file containing network characteristics,

where the custom-generated log file is separate from a standard server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses using a <u>record module disposed</u> on the <u>server</u> to produce a custom-generated log file containing network characteristics,

Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

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Dependent Claim 6

Dependent claim 6 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the record module include a <u>log restriction/rolling module</u> that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

The log restriction/rolling module is "for taking action to prevent the recorded data from filling the available storage space on a server" (specification, page 4, lines 10-12). Log rolling "allows a user to preserve data by moving captured data to another machine without any loss of current data being received by the server" (specification, page 4, lines 12-14). In particular, "[A]n optional feature that may be included on the record module is log file rolling and termination. Recording of the requests being received by the recording server can occupy large amounts of memory and can impose serious burdens on the memory storage capabilities of the recording server. The log restriction/rolling module 440

provides an option to the user that allows the user to specify a time limit and a size limit on the data collector file to preserve memory resources. The file may either be deleted or closed and moved to another storage area (such as another machine or another hard drive)" (specification, page 20, lines 7-15).

In contrast, none of the cited art disclose this <u>log restriction/rolling module</u> that is capable of limiting a size of the data collector file that stores the recorded network characteristics as claimed by the Applicants. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claim 6 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 7 depends from claim 6 and therefore also is novel over the cited art (MPEP § 2143.03).

<u>Dependent Claims 8, 17, 24 and 36</u>

Dependent claim 8 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the <u>data collector file</u> includes a <u>log file</u>, which stores header and tracking information, and a <u>data file</u>, which stores other types of data.

Dependent claim 17 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 16 and further includes having the <u>data collector file</u> include a <u>log file</u>, which stores the header data, and a <u>data file</u>, which stores the remainder of the network data.

Dependent claim 24 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 20 and further includes storing the network data in a <u>data collector file</u> that includes a <u>log file</u>, which stores the header data, and a <u>data file</u>,

which stores the body data.

Dependent claim 36 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 34 and further includes having the data collector file include a log file, which stores header data, and a data file that stores any remaining network data.

The data collector file includes a log file, which is used to store header information received from a client during recording, and a data file, which is used to store other data. In particular, the "data collector file 460 includes a log file 470, for storing header and tracking information, and a data file 480, for storing other types of data" (specification, page 15, lines 21-23).

In contrast, none of the cited art discloses a data collector file that includes a log file, which stores header and tracking information, and a data file, which stores other types of data. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claims 8, 17, 24 and 36 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 9 depends from claim 8, rejected claims 25-27 depends from claim 24, and rejected claims 37 and 38 depend from claim 36 and therefore also are novel over the cited art (MPEP § 2143.03).

The Rejection under 35 U.S.C. § 102(b) of Claims 1-40

It is the Appellants' position that Chen et al. lack at least one feature of the Appellants' claimed invention. Namely, each of Chen et al. is missing the Applicants' claimed record module having a filter residing on a server. As stated above, independent claims 1, 16, 20, 34, 39 and 40 of the Applicants' claimed invention each include or use a record module having a filter that resides on a server.

In contrast, Chen et al. merely disclose a system and method for performance monitoring of a network, wherein the performance monitoring system and method <u>reside</u> on a <u>client</u> computer. More specifically, Chen et al. use a client/server model, where the model " is implemented with a server program, known as a "Data Supplier", that runs as a daemon on the server system and one or more client programs, call "Data Consumers", which are providing the monitoring facilities" (col. 4, lines 3-10). The fact that the performance monitoring system and method reside on the client is made even clearer in column 4, lines 24-27, where the "graphical monitoring program as described in more detail below" is listed as one of "The Data Consumer Programs" (see also FIGS. 1 and 8 of Chen et al.). Thus, Chen et al. merely disclose a system and method that reside on a client computer, and lack the Applicants' claimed record module having a filter that resides on a server. Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by Chen et al., the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(b) as being anticipated by Chen et al. has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

The arguments set forth above with regard to the 35 U.S.C. § 102(e) rejection also apply to the 35 U.S.C. § 102(b) rejection of claims 8, 9, 17, 24-27 and 36-38.

SUMMARY

For the foregoing reasons, the Appellants submit that the Examiner's rejection of claims 1-40 was erroneous. Therefore, the Appellants respectfully request reversal of the Examiner's decision.

Respectfully submitted,

Serial No.: 09/461,900   Attorney Docket No: MCS-116-99

Dated: September 30, 2004

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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

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Craig S. Fischer
By   (Print Name)   Signature

PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. THOMSON

For: **SERVER RECORDING AND CLIENT PLAYBACK OF COMPUTER NETWORK CHARACTERISTICS**

APPEAL BRIEF

REAL PARTY IN INTEREST

Microsoft Corporation owns the subject application in its entirety.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

Serial No.: 09/461,900

STATUS OF THE CLAIMS

On June 30, 2004, Appellants appealed from a final rejection of claims 1-40. The final rejection was contained in a final Office Action dated March 1, 2004 (Paper No. 8).

The application was original filed with claims 1-38. In response to the Office Action dated September 10, 2003 (Paper No. 6), the Appellants amended claims 1, 16 and 20 to overcome Section 102(e) rejections. In addition, new claims 39 and 40 were added.

In response to the final Office Action dated March 1, 2004 (Paper No. 8), the Appellants filed an After Final Response on April 30, 2004, setting forth the elements and features that are missing from each of the cited references that are claimed by the Appellants. No changes were made to the claims. In addition, an Appellant-Initiated Interview Request form was submitted requesting a telephonic interview with Examiner Thomson regarding the Section 102(e) rejections.

On May 26, 2004, the Appellants' attorney, Craig S. Fischer, had a telephonic interview with Examiner W. D. Thomson. Examiner Thomson and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. This interview was made of record by the filing of a "Recordation of the Substance of an Applicant-Initiated Conversation under 37 C.F.R. 1.333" on May 26, 2004.

An Advisory Action was mailed on June 21, 2004. On June 24, 2004, the Appellants' attorney, Craig S. Fischer, had another telephonic interview with Examiner W. D. Thomson. Examiner Thomson stated that he still intends to send out a non-final Office Action clarifying his position. The Advisory Action was and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. No such paper was issued; a Notice of Appeal was filed on June 30, 2004.

STATUS OF AMENDMENTS

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PAGE 20/72 * RCVD AT 9/30/2004 10:24:45 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-1/1 * DNIS:8729306 * CSID:8052788064 * DURATION (mm-ss):31-04

There were no amendments filed subsequent to the final rejection dated March 1, 2004 (Paper No. 8).

SUMMARY OF THE INVENTION

The Appellants' claimed invention includes a computer network simulation system and method for recording and playing back computer network characteristics (specification, page 3, lines 1-6). Network characteristics are recorded on a server and the recorded characteristics are played back on a client (specification, page 3, lines 6-8). The network characteristics are recorded by a filter located on the recording server (specification, page 4, lines 17-18).

The network simulation system includes a recording module that resides on a server and records and stores the network characteristics associated with network sessions into a data collector file (specification, page 3, line 28 to page 4, line 1). A playback module, which resides on a client, is used to play back the data collector file upon request (specification, page 4, lines 1-3). The data collector file includes a log file, which is used to store header information received from the client during recording, and a data file, which is used to store other data (specification, page 4, lines 3-7). The recording module also includes a registration module, which registers the recording module with the server operating system, a tracking module, which tracks users, and a log restriction/rolling module that prevents the recorded data from filling the available storage space on the server (specification, page 4, lines 7-12).

The simulation method includes a method for recording compute network characteristics on a server and playing back the recorded characteristics on a client (specification, page 4, lines 15-17). The recording portion of the method includes using a global filter that resides on a server to record network characteristics (specification, page 4, lines 17-18). Recorded information is stored in a data collector file that includes a log file and a data file (specification, page 4, lines 19-20). The playback portion of the method includes receiving the data collector file and playing back the data collector file to simulate the network characteristics of a real-world network session (specification, page 4, lines 20-

22). The playback method also includes varying the playback speed and multiplying the number of recorded users (or repeating the same recording a number of times if only one user was recorded) to vary the intensity of the recorded network characteristics (specification, page 4, lines 23-26).

The claims on appeal are set forth in the Appeal Brief Appendix provided hereto.

ISSUES

Claims 1-40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Landan (U.S. Patent No. 6,449,739), Marullo et al. (U.S. Patent No. 6,044,398), Straathof et al. (U.S. Patent No. 6,167,534), Abbott et al. (U.S. Patent No. 6,314,463), Mongan et al. (U.S. Patent No. 6,304,982), Rowe (U.S. Patent No. 6,324,492), Dantressangle (U.S. Patent No. 6,446,120), Bromberg et al. (U.S. Patent No. 5,819,066), and Sherman et al. (U.S. Patent No. 6,434,513) (hereinafter referred to collectively as "the cited art".

Claims 1-40 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (U.S. Patent No. 5,432,932).

GROUPING OF CLAIMS

Claims 1-5, 10-16, 18-23, 28-35, 39 and 40 stand or fall together, claims 6 and 7 stand or fall together, and claims 8, 9, 17, 24-27 and 36-38 stand or fall together.

THE EXAMINER'S RATIONALE

The Examiner's rationale for the §102(e) rejection of claims 1-40 was that each of the nine pieces of cited art listed above individually "teach the limitations as recited in claims 1-40." Further, the Examiner stated that "[A]s is clearly shown and delineated in each individual teaching, an equivalent filtering mechanism is provided in the server and the log is different and not the standard server log. The individual teachings of this separate log is to provide monitory and even logs for determining performance when using virtual or emulated client operations to test an application or web server."

The Examiner's rationale for the §102(b) rejection of claims 7-13, 29-32 and 35 was that Chen et al. "explicitly teaches the limitations in claims 1-40."

In the Advisory Action, the Examiner responded to the Appellants' arguments by stating that the "location of the recorder and filter functions is not patentably distinct over the teachings of the prior art, at best this is design choice and is believed covered by a number of the rejections. The record module can as easily be placed on clients, servers, in between both using a monitor or may be distributed across all three nodes in the network. These are well within the skill set and knowledge of one of ordinary skill level in this art, at the time of the Applicant's invention and therefore does not provide a patentable distinction over the cited art."

ARGUMENTS

The Rejection under 35 U.S.C. § 102(e) of Claims 1-40

It is the Appellants' position that the each of the cited art, namely Landan, Marullo et al., Straathof et al., Abbott et al., Mongan et al., Rowe, Dantressangle, Bromberg et al., and Sherman et al., lack at least one feature of the Appellants' claimed invention. Namely, each of these pieces of cited art as lacks the Applicants' claimed record module having a filter residing on a server. This patentable claimed feature is recited in each of the Applicants' claims.

On the other hand, each of these pieces of cited art do not teach the Applicants' claimed record module having a filter residing on a server. As explained in detail below, most of the cited art lack a record module located on the server, and others of the cited art lack a record module having a filter. In both situations the cited art is lacking the Applicants' claimed record module having a filter residing on a server. Each of the rejections will now be discussed in greater detail.

Independent Claim 1

Independent claim 1 of the Applicants' claimed invention includes a network

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simulation system for simulating network characteristics. The system includes a record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics. The system also includes a data collector file that stores the recorded network characteristics for playback on a playback machine.

The filter is located on the record server. In this position, the filter uses its unique position to record and collect "more accurately the network characteristics being received by the server" and provide "more data on these network characteristics than other systems and techniques" (specification, page 3, lines 18-20). The filter actually captures network characteristics not present in server log files (specification, page 3, lines 16-18). This is due in part to the filter's location on the server. In particular, "[B]ecause of the way the ISAPI global filter was implemented into IIS the ISAPI global filter actually got called before ISS began processing the data. This feature can be useful for troubleshooting the network because by examining the log file [as recorded by the filter – this is different from the traditional server log files] it can be determined at what time a network problem occurred and what request may have caused the network problem" (specification page 24, lines 16-20). Thus, the Applicants' claimed invention includes a <u>filter</u> that <u>resides</u> on the record <u>server</u> that records network characteristics not captured in server log files.

In contrast, Landan et al. merely disclose a recorder that resides on a controller computer. More specifically, as shown in FIG. 1 of Landan, recorder 34A is part of the controller that does not reside on the servers. Instead, the controller 34 resides on a controller computer 35, which is <u>not</u> the transactional server 30 (col. 5, lines 31-33). Landan et al. are missing the Applicants' claimed feature of record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics.

Marullo et al. merely disclose a <u>client-based</u> website virtual browser application for web server application verification and testing (Abstract, lines 1-6; col. 1, lines 7-9, "Technical Field"; emphasis added). In particular, the <u>client-based</u> website virtual browser application is also referred to as "webrunner" (col. 23-26). Referring to FIG. 3 of Marullo et al., the webrunner 30 loops through input data (col. 8, lines 18-22). The input data of the

webrunner 30 comes "either from an input data file 34 or alternatively from a user/tester employing GUI edit field input 36" (col. 8, lines 4-6). As shown in FIG. 3 of Marullo et al., both the input data file 34 and the GUI edit field input 36 resides on the client with the webrunner. Marullo et al. lack any disclosure of a record module on the web server 54. Marullo et al., therefore, are missing the Applicants' claimed feature of record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics.

Straathof et al. merely disclose a <u>client-based</u> system that captures "user interface and/or application calls to generate a script to emulate a user session" (Abstract, lines 2-4). The "Capture Agent" is the sub-system that "records user activities, including keystrokes, mouse movements and SQL requests, to create emulation scripts" (col. 4, lines 56-58). As shown in FIG. 5, Straathof et al., the "Capture Agent" <u>resides on the client side</u> of the network. Straathof et al. lack any teaching of the "Capture Agent" residing on the server 254. Therefore, Straathof et al. are missing the Applicants' claimed feature of record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics.

Abbott et al. merely disclose a system and method for managing web servers based on queue length and delay. An agent 106 in Abbott et al. captures performance information periodically to "monitor load on the web service system" (col. 11, lines 46-48). However, the Applicants' claimed record module having a filter is not taught. Moreover, Abbott et al. also lack the Applicants' claimed "data collector file that stores the record network characteristics <u>for playback</u> on the playback machine." As mentioned above, the system and method of Abbott et al. are only for managing web servers, and not data is recorded for playback. Therefore, Abbott et al. are missing the Applicants' claimed feature of record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics as well as the claimed feature of a data collector file that stores the recorded network characteristics for <u>playback</u> on a playback machine.

Mongan et al. merely disclose a system that uses a server computer as a "central repository for all tests performed by any number of connected client computers . . . and

acts as a central repository for the results of these tests returned by the client computers" (col. 2, lines 56-61). The tests are on the server and sent to a client upon request for execution on the client (col. 4, lines 16-24). Storing tests and results of the tests on the server frees up storage space on the client (col. 4, lines 57-61). The tests stored on the server are either prewritten tests or automatically generated tests (col. 7, lines 4-14). However, as shown in FIG. 1 of Mongan et al., the server 104 <u>lacks</u> the Applicants' claimed record module <u>having a filter</u>.

Rowe merely discloses a method and a system that uses stored "simulated client profiles each representing an associated simulated client. As an example of such means, FIG. 5 shows a simulated client state array 102 that has stored therein the states of each of a plurality of simulated clients" (col. 10, lines 60-65). A simulated client is "defined in part by an associated client profile that includes, for example, a set of possible states of the simulated client, state transition rules that specify possible I/O requests to a server from the simulated client in any of the possible states and a relative frequency of each of the possible I/O requests" (col. 8, lines 66-67 to col. 9, lines 1-4). This stored information about a simulated client is used to stress a server. However, the server <u>lacks</u> the Applicants' claimed record module having a filter.

Dantressangle merely discloses a method and a system that uses pre-defined test files <u>located on the client</u> computers to stress test a server. Specifically, as shown in FIGS. 2-4 of Dantressangle, there is disclosed a "configurable stresser 200 [that] resides at the client or simulated client UNIX machine 102" (col. 5, lines 62-63). "Initially, a user generates a test guide file 402 that contains the instructions for testing the Web server 104" (col. 5, lines 66-67). The "test guide file 402 is a text file . . . that centralizes all the information necessary for the testing/stressing process" (col. 7, lines 31-33). As shown in FIG. 9 of Dantressangle, "a user can specify the test guide file 402 using a list box 902" (col. 10, lines 57-58). Once the test guide file has been generated by user selection, each "virtual Web browser 404 executes commands specified in the test guide file 402 by transmitting these commands to the Web server 104" (col. 6, lines 25-27). Thus, Dantressangle merely disclose pre-defined test files located on the client computers to

stress test a server. Nowhere does Dantressangle disclose the Applicants' claimed record module.

Bromberg et al. merely disclose a benchmarking application that uses benchmark transactions to submit to a database server. As shown in FIG. 6 of Bromberg et al., the benchmark transactions are generated for "submission to database server 14" (col. 11, lines 66-67). However, as can be seen from FIG. 6 and in column 12, lines 5-67, the generation of the benchmark transactions does not involve any type of record module having a filter, as claimed by the Applicants.

Sherman et al. merely disclose a method of load testing a web application using test scripts residing on a client computer. A test script "defines the behavior of the simulated clients" (col. 2, lines 5-6). Each simulated client "is implemented as a separate thread, generating HTTP request according to a predefined set of instructions, called a 'test script'" (col. 4, lines 40-41). Thus, Sherman et al. merely use predefined test scripts, and lack the Applicants' claimed record module.

Independent Claim 16

Independent claim 16 includes a network simulation system for playing back recorded network characteristics. The system includes a data collector file that contains network data that has been recorded by a filter that resides on a recording server. In addition, the system includes a playback module that resides on a playback machine and plays back the data collector file. The network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses a data collector file that contains network data that has been recorded by a filter that resides on a recording server.

Independent Claim 20

Independent claim 20 includes a method of simulating computer network

characteristics on a testing server. The method includes recording network data using a <u>filter residing</u> on a recording <u>server</u>, and storing the recorded network data. The method further includes playing back the recorded network data on a playback machine in communication with the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses recording network data using a <u>filter residing</u> on a recording <u>server</u>.

Independent Claim 34

Independent claim 34 includes a method of recording network characteristics. The method includes providing a server having an operating system, and registering a <u>filter residing</u> on the <u>server</u> with the operating system. The method further includes using the filter to capture network data containing the network characteristics, and storing the captured network data in a data collector file for playback.

As set forth above with regard to independent claim 1, none of the cited art discloses a registering a <u>filter residing</u> on the <u>server</u> with an operating system.

Independent Claim 39

Independent claim 39 includes a network simulation system for recording network characteristics of a computer network. The system includes a <u>record module located</u> on a <u>server</u> on the computer network. The system also includes a custom-generated log file generated by the record module that stores the recorded network characteristics. The custom-generated log file is not a server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses a <u>record module located</u> on a <u>server</u> on the computer network.

Independent Claim 40

Independent claim 40 includes a method of recording network characteristics on a computer network having a server. The method includes using a <u>record module disposed</u> on the <u>server</u> to produce a custom-generated log file containing network characteristics,

where the custom-generated log file is separate from a standard server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses using a record module disposed on the server to produce a custom-generated log file containing network characteristics.

Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

Dependent Claim 6

Dependent claim 6 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the record module include a log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

The log restriction/rolling module is "for taking action to prevent the recorded data from filling the available storage space on a server" (specification, page 4, lines 10-12). Log rolling "allows a user to preserve data by moving captured data to another machine without any loss of current data being received by the server" (specification, page 4, lines 12-14). In particular, "[A]n optional feature that may be included on the record module is log file rolling and termination. Recording of the requests being received by the recording server can occupy large amounts of memory and can impose serious burdens on the memory storage capabilities of the recording server. The log restriction/rolling module 440

provides an option to the user that allows the user to specify a time limit and a size limit on the data collector file to preserve memory resources. The file may either be deleted or closed and moved to another storage area (such as another machine or another hard drive)" (specification, page 20, lines 7-15).

In contrast, none of the cited art disclose this log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics as claimed by the Applicants. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claim 6 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 7 depends from claim 6 and therefore also is novel over the cited art (MPEP § 2143.03).

Dependent Claims 8, 17, 24 and 36

Dependent claim 8 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the data collector file includes a log file, which stores header and tracking information, and a data file, which stores other types of data.

Dependent claim 17 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 16 and further includes having the data collector file include a log file, which stores the header data, and a data file, which stores the remainder of the network data.

Dependent claim 24 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 20 and further includes storing the network data in a data collector file that includes a log file, which stores the header data, and a data file,

which stores the body data.

Dependent claim 36 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 34 and further includes having the <u>data collector file</u> include a <u>log file</u>, which stores header data, and a <u>data file</u> that stores any remaining network data.

The data collector file includes a log file, which is used to store header information received from a client during recording, and a data file, which is used to store other data. In particular, the "data collector file 460 includes a log file 470, for storing header and tracking information, and a data file 480, for storing other types of data" (specification, page 15, lines 21-23).

In contrast, none of the cited art discloses a data collector file that includes a <u>log file</u>, which stores header and tracking information, and a <u>data file</u>, which stores other types of data. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claims 8, 17, 24 and 36 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 9 depends from claim 8, rejected claims 25-27 depends from claim 24, and rejected claims 37 and 38 depend from claim 36 and therefore also are novel over the cited art (MPEP § 2143.03).

The Rejection under 35 U.S.C. § 102(b) of Claims 1-40

It is the Appellants' position that Chen et al. lack at least one feature of the Appellants' claimed invention. Namely, each of Chen et al. is missing the Applicants' claimed record module having a filter residing on a server. As stated above, independent claims 1, 16, 20, 34, 39 and 40 of the Applicants' claimed invention each include or use a record module having a <u>filter</u> that <u>resides on a server</u>.

In contrast, Chen et al. merely disclose a system and method for performance monitoring of a network, wherein the performance monitoring system and method reside on a client computer. More specifically, Chen et al. use a client/server model, where the model " is implemented with a server program, known as a "Data Supplier", that runs as a daemon on the server system and one or more client programs, call "Data Consumers", which are providing the monitoring facilities" (col. 4, lines 3-10). The fact that the performance monitoring system and method reside on the client is made even clearer in column 4, lines 24-27, where the "graphical monitoring program as described in more detail below" is listed as one of "The Data Consumer Programs" (see also FIGS. 1 and 8 of Chen et al.). Thus, Chen et al. merely disclose a system and method that reside on a client computer, and lack the Applicants' claimed record module having a filter that resides on a server. Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by Chen et al., the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(b) as being anticipated by Chen et al. has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

The arguments set forth above with regard to the 35 U.S.C. § 102(e) rejection also apply to the 35 U.S.C. § 102(b) rejection of claims 8, 9, 17, 24-27 and 36-38.

SUMMARY

For the foregoing reasons, the Appellants submit that the Examiner's rejection of claims 1-40 was erroneous. Therefore, the Appellants respectfully request reversal of the Examiner's decision.

Respectfully submitted,

Dated: September 30, 2004

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_Craig S. Fischer_____   _____
By   (Print Name)   Signature

PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. THOMSON

For: SERVER RECORDING AND CLIENT PLAYBACK
       OF COMPUTER NETWORK CHARACTERISTICS

APPEAL BRIEF

REAL PARTY IN INTEREST

Microsoft Corporation owns the subject application in its entirety.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

STATUS OF THE CLAIMS

On June 30, 2004, Appellants appealed from a final rejection of claims 1-40. The final rejection was contained in a final Office Action dated March 1, 2004 (Paper No. 8).

The application was original filed with claims 1-38. In response to the Office Action dated September 10, 2003 (Paper No. 6), the Appellants amended claims 1, 16 and 20 to overcome Section 102(e) rejections. In addition, new claims 39 and 40 were added.

In response to the final Office Action dated March 1, 2004 (Paper No. 8), the Appellants filed an After Final Response on April 30, 2004, setting forth the elements and features that are missing from each of the cited references that are claimed by the Appellants. No changes were made to the claims. In addition, an Appellant-Initiated Interview Request form was submitted requesting a telephonic interview with Examiner Thomson regarding the Section 102(e) rejections.

On May 26, 2004, the Appellants' attorney, Craig S. Fischer, had a telephonic interview with Examiner W. D. Thomson. Examiner Thomson and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. This interview was made of record by the filing of a "Recordation of the Substance of an Applicant-Initiated Conversation under 37 C.F.R. 1.333" on May 26, 2004.

An Advisory Action was mailed on June 21, 2004. On June 24, 2004, the Appellants' attorney, Craig S. Fischer, had another telephonic interview with Examiner W. D. Thomson. Examiner Thomson stated that he still intends to send out a non-final Office Action clarifying his position. The Advisory Action was and Mr. Fischer agreed that a non-final Office Action would be issued in the case to clarify the Examiner's position. No such paper was issued; a Notice of Appeal was filed on June 30, 2004.

STATUS OF AMENDMENTS

There were no amendments filed subsequent to the final rejection dated March 1, 2004 (Paper No. 8).

SUMMARY OF THE INVENTION

The Appellants' claimed invention includes a computer network simulation system and method for recording and playing back computer network characteristics (specification, page 3, lines 1-6). Network characteristics are recorded on a server and the recorded characteristics are played back on a client (specification, page 3, lines 6-8). The network characteristics are recorded by a filter located on the recording server (specification, page 4, lines 17-18).

The network simulation system includes a recording module that resides on a server and records and stores the network characteristics associated with network sessions into a data collector file (specification, page 3, line 28 to page 4, line 1). A playback module, which resides on a client, is used to play back the data collector file upon request (specification, page 4, lines 1-3). The data collector file includes a log file, which is used to store header information received from the client during recording, and a data file, which is used to store other data (specification, page 4, lines 3-7). The recording module also includes a registration module, which registers the recording module with the server operating system, a tracking module, which tracks users, and a log restriction/rolling module that prevents the recorded data from filling the available storage space on the server (specification, page 4, lines 7-12).

The simulation method includes a method for recording compute network characteristics on a server and playing back the recorded characteristics on a client (specification, page 4, lines 15-17). The recording portion of the method includes using a global filter that resides on a server to record network characteristics (specification, page 4, lines 17-18). Recorded information is stored in a data collector file that includes a log file and a data file (specification, page 4, lines 19-20). The playback portion of the method includes receiving the data collector file and playing back the data collector file to simulate the network characteristics of a real-world network session (specification, page 4, lines 20-

22). The playback method also includes varying the playback speed and multiplying the number of recorded users (or repeating the same recording a number of times if only one user was recorded) to vary the intensity of the recorded network characteristics (specification, page 4, lines 23-26).

The claims on appeal are set forth in the Appeal Brief Appendix provided hereto.

ISSUES

Claims 1-40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Landan (U.S. Patent No. 6,449,739), Marullo et al. (U.S. Patent No. 6,044,398), Straathof et al. (U.S. Patent No. 6,167,534), Abbott et al. (U.S. Patent No. 6,314,463), Mongan et al. (U.S. Patent No. 6,304,982), Rowe (U.S. Patent No. 6,324,492), Dantressangle (U.S. Patent No. 6,446,120), Bromberg et al. (U.S. Patent No. 5,819,066), and Sherman et al. (U.S. Patent No. 6,434,513) (hereinafter referred to collectively as "the cited art".

Claims 1-40 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (U.S. Patent No. 5,432,932).

GROUPING OF CLAIMS

Claims 1-5, 10-16, 18-23, 28-35, 39 and 40 stand or fall together, claims 6 and 7 stand or fall together, and claims 8, 9, 17, 24-27 and 36-38 stand or fall together.

THE EXAMINER'S RATIONALE

The Examiner's rationale for the §102(e) rejection of claims 1-40 was that each of the nine pieces of cited art listed above individually "teach the limitations as recited in claims 1-40." Further, the Examiner stated that "[A]s is clearly shown and delineated in each individual teaching, an equivalent filtering mechanism is provided in the server and the log is different and not the standard server log. The individual teachings of this separate log is to provide monitory and even logs for determining performance when using virtual or emulated client operations to test an application or web server."

The Examiner's rationale for the §102(b) rejection of claims 7-13, 29-32 and 35 was that Chen et al. "explicitly teaches the limitations in claims 1-40."

In the Advisory Action, the Examiner responded to the Appellants' arguments by stating that the "location of the recorder and filter functions is not patentably distinct over the teachings of the prior art, at best this is design choice and is believed covered by a number of the rejections. The record module can as easily be placed on clients, servers, in between both using a monitor or may be distributed across all three nodes in the network. These are well within the skill set and knowledge of one of ordinary skill level in this art, at the time of the Applicant's invention and therefore does not provide a patentable distinction over the cited art."

ARGUMENTS

The Rejection under 35 U.S.C. § 102(e) of Claims 1-40

It is the Appellants' position that the each of the cited art, namely Landan, Marullo et al., Straathof et al., Abbott et al., Mongan et al., Rowe, Dantressangle, Bromberg et al., and Sherman et al., lack at least one feature of the Appellants' claimed invention. Namely, each of these pieces of cited art as lacks the Applicants' claimed record module having a filter residing on a server. This patentable claimed feature is recited in each of the Applicants' claims.

On the other hand, each of these pieces of cited art do not teach the Applicants' claimed record module having a filter residing on a server. As explained in detail below, most of the cited art lack a record module located on the server, and others of the cited art lack a record module having a filter. In both situations the cited art is lacking the Applicants' claimed record module having a filter residing on a server. Each of the rejections will now be discussed in greater detail.

Independent Claim 1

Independent claim 1 of the Applicants' claimed invention includes a network

simulation system for simulating network characteristics. The system includes a record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics. The system also includes a data collector file that stores the recorded network characteristics for playback on a playback machine.

The filter is located on the record server. In this position, the filter uses its unique position to record and collect "more accurately the network characteristics being received by the server" and provide "more data on these network characteristics than other systems and techniques" (specification, page 3, lines 18-20). The filter actually captures network characteristics not present in server log files (specification, page 3, lines 16-18). This is due in part to the filter's location on the server. In particular, "[B]ecause of the way the ISAPI global filter was implemented into IIS the ISAPI global filter actually got called before ISS began processing the data. This feature can be useful for troubleshooting the network because by examining the log file [as recorded by the filter – this is different from the traditional server log files] it can be determined at what time a network problem occurred and what request may have caused the network problem" (specification page 24, lines 16-20). Thus, the Applicants' claimed invention includes a <u>filter</u> that <u>resides</u> on the record <u>server</u> that records network characteristics not captured in server log files.

In contrast, Landan et al. merely disclose a recorder that resides on a controller computer. More specifically, as shown in FIG. 1 of Landan, recorder 34A is part of the controller that does not reside on the servers. Instead, the controller 34 resides on a controller computer 35, which is <u>not</u> the transactional server 30 (col. 5, lines 31-33). Landan et al. are missing the Applicants' claimed feature of record module having a <u>filter</u> that <u>resides on a server</u> and records network characteristics.

Marullo et al. merely disclose a <u>client-based</u> website virtual browser application for web server application verification and testing (Abstract, lines 1-6; col. 1, lines 7-9, "Technical Field"; emphasis added). In particular, the <u>client-based</u> website virtual browser application is also referred to as "webrunner" (col. 23-26). Referring to FIG. 3 of Marullo et al., the webrunner 30 loops through input data (col. 8, lines 18-22). The input data of the

webrunner 30 comes "either from an input data file 34 or alternatively from a user/tester employing GUI edit field input 36" (col. 8, lines 4-6). As shown in FIG. 3 of Marullo et al., both the input data file 34 and the GUI edit field input 36 resides on the client with the webrunner. Marullo et al. lack any disclosure of a record module on the web server 54. Marullo et al., therefore, are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics.

Straathof et al. merely disclose a _client-based_ system that captures "user interface and/or application calls to generate a script to emulate a user session" (Abstract, lines 2-4). The "Capture Agent" is the sub-system that "records user activities, including keystrokes, mouse movements and SQL requests, to create emulation scripts" (col. 4, lines 56-58). As shown in FIG. 5, Straathof et al., the "Capture Agent" _resides on the client side_ of the network. Straathof et al. lack any teaching of the "Capture Agent" residing on the server 254. Therefore, Straathof et al. are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics.

Abbott et al. merely disclose a system and method for managing web servers based on queue length and delay. An agent 106 in Abbott et al. captures performance information periodically to "monitor load on the web service system" (col. 11, lines 46-48). However, the Applicants' claimed record module having a filter is not taught. Moreover, Abbott et al. also lack the Applicants' claimed "data collector file that stores the record network characteristics _for playback_ on the playback machine." As mentioned above, the system and method of Abbott et al. are only for managing web servers, and not data is recorded for playback. Therefore, Abbott et al. are missing the Applicants' claimed feature of record module having a _filter_ that _resides on a server_ and records network characteristics as well as the claimed feature of a data collector file that stores the recorded network characteristics for _playback_ on a playback machine.

Mongan et al. merely disclose a system that uses a server computer as a "central repository for all tests performed by any number of connected client computers . . . and

acts as a central repository for the results of these tests returned by the client computers" (col. 2, lines 56-61). The tests are on the server and sent to a client upon request for execution on the client (col. 4, lines 16-24). Storing tests and results of the tests on the server frees up storage space on the client (col. 4, lines 57-61). The tests stored on the server are either prewritten tests or automatically generated tests (col. 7, lines 4-14). However, as shown in FIG. 1 of Mongan et al., the server 104 <u>lacks</u> the Applicants' claimed record module <u>having a filter.</u>

Rowe merely discloses a method and a system that uses stored "simulated client profiles each representing an associated simulated client. As an example of such means, FIG. 5 shows a simulated client state array 102 that has stored therein the states of each of a plurality of simulated clients" (col. 10, lines 60-65). A simulated client is "defined in part by an associated client profile that includes, for example, a set of possible states of the simulated client, state transition rules that specify possible I/O requests to a server from the simulated client in any of the possible states and a relative frequency of each of the possible I/O requests" (col. 8, lines 66-67 to col. 9, lines 1-4). This stored information about a simulated client is used to stress a server. However, the server <u>lacks</u> the Applicants' claimed record module having a filter.

Dantressangle merely discloses a method and a system that uses pre-defined test files <u>located on the client</u> computers to stress test a server. Specifically, as shown in FIGS. 2-4 of Dantressangle, there is disclosed a "configurable stresser 200 [that] resides at the client or simulated client UNIX machine 102" (col. 5, lines 62-63). "Initially, a user generates a test guide file 402 that contains the instructions for testing the Web server 104" (col. 5, lines 66-67). The "test guide file 402 is a text file . . . that centralizes all the information necessary for the testing/stressing process" (col. 7, lines 31-33). As shown in FIG. 9 of Dantressangle, "a user can specify the test guide file 402 using a list box 902" (col. 10, lines 57-58). Once the test guide file has been generated by user selection, each "virtual Web browser 404 executes commands specified in the test guide file 402 by transmitting these commands to the Web server 104" (col. 6, lines 25-27). Thus, Dantressangle merely disclose pre-defined test files located on the client computers to

stress test a server. Nowhere does Dantressangle disclose the Applicants' claimed record module.

Bromberg et al. merely disclose a benchmarking application that uses benchmark transactions to submit to a database server. As shown in FIG. 6 of Bromberg et al., the benchmark transactions are generated for "submission to database server 14" (col. 11, lines 66-67). However, as can be seen from FIG. 6 and in column 12, lines 5-67, the generation of the benchmark transactions does not involve any type of record module having a filter, as claimed by the Applicants.

Sherman et al. merely disclose a method of load testing a web application using test scripts residing on a client computer. A test script "defines the behavior of the simulated clients" (col. 2, lines 5-6). Each simulated client "is implemented as a separate thread, generating HTTP request according to a predefined set of instructions, called a 'test script'" (col. 4, lines 40-41). Thus, Sherman et al. merely use predefined test scripts, and lack the Applicants' claimed record module.

Independent Claim 16

Independent claim 16 includes a network simulation system for playing back recorded network characteristics. The system includes a data collector file that contains network data that has been recorded by a filter that resides on a recording server. In addition, the system includes a playback module that resides on a playback machine and plays back the data collector file. The network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses a data collector file that contains network data that has been recorded by a filter that resides on a recording server.

Independent Claim 20

Independent claim 20 includes a method of simulating computer network

characteristics on a testing server. The method includes recording network data using a <u>filter residing</u> on a recording <u>server</u>, and storing the recorded network data. The method further includes playing back the recorded network data on a playback machine in communication with the testing server.

As set forth above with regard to independent claim 1, none of the cited art discloses recording network data using a <u>filter residing</u> on a recording <u>server</u>.

Independent Claim 34

Independent claim 34 includes a method of recording network characteristics. The method includes providing a server having an operating system, and registering a <u>filter residing</u> on the <u>server</u> with the operating system. The method further includes using the filter to capture network data containing the network characteristics, and storing the captured network data in a data collector file for playback.

As set forth above with regard to independent claim 1, none of the cited art discloses a registering a <u>filter residing</u> on the <u>server</u> with an operating system.

Independent Claim 39

Independent claim 39 includes a network simulation system for recording network characteristics of a computer network. The system includes a <u>record module located</u> on a <u>server</u> on the computer network. The system also includes a custom-generated log file generated by the record module that stores the recorded network characteristics. The custom-generated log file is not a server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses a <u>record module located</u> on a <u>server</u> on the computer network.

Independent Claim 40

Independent claim 40 includes a method of recording network characteristics on a computer network having a server. The method includes using a <u>record module disposed</u> on the <u>server</u> to produce a custom-generated log file containing network characteristics,

where the custom-generated log file is separate from a standard server log file of the server. As set forth above with regard to independent claim 1, none of the cited art discloses using a <u>record module disposed</u> on the <u>server</u> to produce a custom-generated log file containing network characteristics,

Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

Dependent Claim 6

Dependent claim 6 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the record module include a <u>log restriction/rolling module</u> that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

The log restriction/rolling module is "for taking action to prevent the recorded data from filling the available storage space on a server" (specification, page 4, lines 10-12). Log rolling "allows a user to preserve data by moving captured data to another machine without any loss of current data being received by the server" (specification, page 4, lines 12-14). In particular, "[A]n optional feature that may be included on the record module is log file rolling and termination. Recording of the requests being received by the recording server can occupy large amounts of memory and can impose serious burdens on the memory storage capabilities of the recording server. The log restriction/rolling module 440

provides an option to the user that allows the user to specify a time limit and a size limit on the data collector file to preserve memory resources. The file may either be deleted or closed and moved to another storage area (such as another machine or another hard drive)" (specification, page 20, lines 7-15).

In contrast, none of the cited art disclose this log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics as claimed by the Applicants. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claim 6 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 7 depends from claim 6 and therefore also is novel over the cited art (MPEP § 2143.03).

Dependent Claims 8, 17, 24 and 36

Dependent claim 8 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 1 and further includes having the data collector file includes a log file, which stores header and tracking information, and a data file, which stores other types of data.

Dependent claim 17 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 16 and further includes having the data collector file include a log file, which stores the header data, and a data file, which stores the remainder of the network data.

Dependent claim 24 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 20 and further includes storing the network data in a data collector file that includes a log file, which stores the header data, and a data file,

which stores the body data.

Dependent claim 36 of the Applicants' claimed invention includes all of the above-mentioned features of independent claim 34 and further includes having the <u>data collector file</u> include a <u>log file</u>, which stores header data, and a <u>data file</u> that stores any remaining network data.

The data collector file includes a log file, which is used to store header information received from a client during recording, and a data file, which is used to store other data. In particular, the "data collector file 460 includes a log file 470, for storing header and tracking information, and a data file 480, for storing other types of data" (specification, page 15, lines 21-23).

In contrast, none of the cited art discloses a data collector file that includes a <u>log file</u>, which stores header and tracking information, and a <u>data file</u>, which stores other types of data. Moreover, the final Office Action dated March 1, 2004 does not provide any specific arguments as to where in the cited art that this claimed feature is taught. Thus, because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by the cited art, the Applicants respectfully submit that the rejection of dependent claims 8, 17, 24 and 36 under 35 U.S.C. § 102(e) as being anticipated by each piece of the cited art individually has been overcome based on the arguments and analysis set forth above. Moreover, rejected claim 9 depends from claim 8, rejected claims 25-27 depends from claim 24, and rejected claims 37 and 38 depend from claim 36 and therefore also are novel over the cited art (MPEP § 2143.03).

The Rejection under 35 U.S.C. § 102(b) of Claims 1-40

It is the Appellants' position that Chen et al. lack at least one feature of the Appellants' claimed invention. Namely, each of Chen et al. is missing the Applicants' claimed record module having a filter residing on a server. As stated above, independent claims 1, 16, 20, 34, 39 and 40 of the Applicants' claimed invention each include or use a record module having a <u>filter</u> that <u>resides on a server</u>.

In contrast, Chen et al. merely disclose a system and method for performance monitoring of a network, wherein the performance monitoring system and method <u>reside</u> on a <u>client</u> computer. More specifically, Chen et al. use a client/server model, where the model " is implemented with a server program, known as a "Data Supplier", that runs as a daemon on the server system and one or more client programs, call "Data Consumers", which are providing the monitoring facilities" (col. 4, lines 3-10). The fact that the performance monitoring system and method reside on the client is made even clearer in column 4, lines 24-27, where the "graphical monitoring program as described in more detail below" is listed as one of "The Data Consumer Programs" (see also FIGS. 1 and 8 of Chen et al.). Thus, Chen et al. merely disclose a system and method that reside on a client computer, and lack the Applicants' claimed record module having a filter that resides on a server. Because the Applicants' claimed invention includes features neither taught, disclosed nor suggested by Chen et al., the Applicants respectfully submit that the rejection of independent claims 1, 16, 20, 34, 39 and 40 under 35 U.S.C. § 102(b) as being anticipated by Chen et al. has been overcome based on the arguments and analysis set forth above. Moreover, rejected claims 2-5 and 10-15 depend from independent claim 1, rejected claims 18 and 19 depend from independent claim 16, rejected claims 21-23 and 28-33 depend from independent claim 20, and rejected claim 35 depends from independent claim 34 and therefore also are novel over the cited art (MPEP § 2143.03).

The arguments set forth above with regard to the 35 U.S.C. § 102(e) rejection also apply to the 35 U.S.C. § 102(b) rejection of claims 8, 9, 17, 24-27 and 36-38.
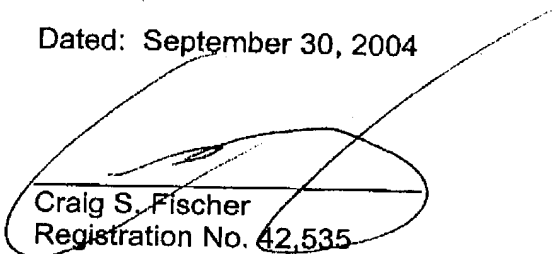
SUMMARY

For the foregoing reasons, the Appellants submit that the Examiner's rejection of claims 1-40 was erroneous. Therefore, the Appellants respectfully request reversal of the Examiner's decision.

Respectfully submitted,

Serial No.: 09/461,900

Dated: September 30, 2004

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PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. THOMSON

For: **SERVER RECORDING AND CLIENT PLAYBACK OF COMPUTER NETWORK CHARACTERISTICS**

APPEAL BRIEF APPENDIX

The following claims 1-40 represent all of the claims involved in the appeal of the above-referenced patent application and are provided in accordance with the requirements of 37 C.F.R. § 1.192(c)(7).

1. A network simulation system for simulating network characteristics, comprising:

a record module having a filter that resides on a server and records network characteristics;

a data collector file that stores the recorded network characteristics for playback on a playback machine.

2. The network simulation system of claim 1, wherein the record module comprises a filter that captures network data from a host environment.

3. The network simulation system of claim 2, wherein the filter is a global filter.

4. The network simulation system of claim 2, wherein the filter is implemented into an operating system of the server.

5. The network simulation system of claim 4, wherein the filter is implemented between a port handling module, which scans a port for incoming network data, and a processing module, which processes the network data.

6. The network simulation system of claim 1, wherein the record module comprises a log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

7. The network simulation system of claim 6, wherein the log restriction/rolling module limits the size of the data collector file by at least one of: (a) deleting at least a portion of the data collector file; (b) moving at least of portion of the data collector file to another machine.

8. The network simulation system of claim 1, wherein the data collector file comprises a log file, which stores header and tracking information, and a data file, which stores other types of data.

9.   The network simulation system of claim 8, further comprising a caching module that caches at least a portion of incoming network data and subsequently writes the cached data to the log file.

10.   The network simulation system of claim 1, further comprising a playback module that resides on the playback machine and plays back the recorded network characteristics.

11.   The network simulation system of claim 10, wherein the playback machine is a client and the recorded network characteristics are played back to a testing server.

12.   The network simulation system of claim 10, wherein the playback module comprises a data collector file reader that reads at least a portion of the recorded network characteristics stored in the data collector file.

13.   The network simulation system of claim 12, wherein the data collector file comprises a log file, which stores header information, and data file, which stores other network data.

14.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and the playback module comprises a controller and a controller mapping table that determines to which client the testing server should send a played back request.

15.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and each client comprises a client mapping table that is used to time out a user.

16.   A network simulation system for playing back recorded network characteristics, comprising:

a data collector file that contains network data that has been recorded by a filter that resides on a recording server; and

a playback module that resides on a playback machine and plays back the data collector file;

wherein the network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

17. The network simulation system of claim 16, wherein the network data includes header data and the data collector file comprises a log file, which stores he header data, and a data file, which stores the remainder of the network data.

18. The network simulation system of claim 16, wherein the playback machine is a client machine in communication with the testing server.

19. The network simulation system of claim 18, wherein the playback module comprises a data collector file reader capable of accessing the network data within the data collector file.

20. A method of simulating computer network characteristics on a testing server, comprising:

recording network data using a filter residing on a recording server;

storing the recorded network data; and

playing back the recorded network data on a playback machine in communication with the testing server.

21. The method of claim 20, wherein recording comprises capturing the network data from a host environment of the recording server.

22. The method of claim 21, wherein recording further comprises caching the captured network data prior to storing the network data.

23.   The method of claim 22, wherein the network data comprises header data and body data and network data is cached until all the header data has been captured.

24.   The method of claim 20, wherein the network data comprises header data and body data and the recorded network data is stored in a data collector file comprising a log file, which stores the header data, and a data file, which stores the body data.

25.   The method of claim 24, wherein the header data is cached until all of the header data has been recorded and the cached header data is stored in the log file.

26.   The method of claim 24, wherein recording comprises assigning a unique value to each user in communication with the recording server to identify the user.

27.   The method of claim 26, wherein the unique value is stored in the log file.

28.   The method of claim 20, further comprising tracking network information from the recording server.

29.   The method of claim 28, wherein the network information includes at least one of: (a) a user that sent a request; (b) what time a request was sent by a user; (c) when a socket was opened; (d) when a socket was closed; (e) a status code of the recording server.

30.   The method of claim 20, wherein the playback machine is a client machine.

31.   The method of claim 30, wherein the testing server is in communication with a second client and playing back comprises using a controller mapping table to assign a user to a client such that all recorded network data from the user is played back on the same client.

32.   The method of claim 30, wherein the client machine can simulate multiple

users by playing back the recorded network data.

33. A computer-readable medium having computer-executable instructions for performing the method recited in claim 20.

34. A method of recording network characteristics, comprising:
   providing a server having an operating system;
   registering a filter residing on the server with the operating system;
   using the filter to capture network data containing the network characteristics; and
   storing the captured network data in a data collector file for playback.

35. The method of claim 34, wherein the filter is a global filter and the global filter is implemented within the server operating system.

36. The method of claim 34, wherein the network data comprises header data and the data collector file comprises a log file that stores header data and a data file that stores any remaining network data.

37. The method of claim 36, wherein captured header data is cached in memory prior to be stored in the log file.

38. The method of claim 37, wherein the captured header data is cached until all the header data has been received and then the header data is stored in the log file and any remaining network data is stored in the data file.

39. A network simulation system for recording network characteristics of a computer network, comprising:
   a record module located on a server on the computer network; and
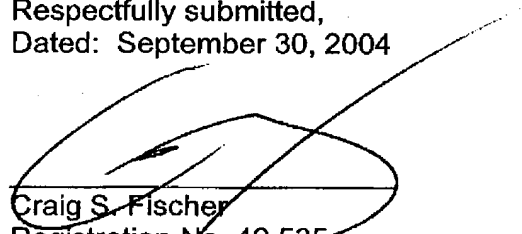   a custom-generated log file generated by the record module that stores the recorded network characteristics;

wherein the custom-generated log file is not a server log file of the server.

40. A method of recording network characteristics on a computer network having a server, comprising using a record module disposed on the server to produce a custom-generated log file containing network characteristics, wherein the custom-generated log file is separate from a standard server log file of the server.

Respectfully submitted,
Dated: September 30, 2004

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Serial No.: 09/461,900   Attorney Docket No: MCS-116-99

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___Craig S. Fischer___
By   (Print Name)   Signature

27662
PATENT TRADEMARK OFFICE

PATENT
Attorney Docket No.: MCS-116-99
MSFT No.: 146907.01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: NACE et al.

Serial No.:   09/461,900   Group Art Unit: 2123

Filed: December 15, 1999   Examiner: W. THOMSON

For: **SERVER RECORDING AND CLIENT PLAYBACK
              OF COMPUTER NETWORK CHARACTERISTICS**

APPEAL BRIEF APPENDIX

The following claims 1-40 represent all of the claims involved in the appeal of the

above-referenced patent application and are provided in accordance with the requirements

of 37 C.F.R. § 1.192(c)(7).

1.   A network simulation system for simulating network characteristics, comprising:

        a record module having a filter that resides on a server and records network characteristics;

        a data collector file that stores the recorded network characteristics for playback on a playback machine.

2.   The network simulation system of claim 1, wherein the record module comprises a filter that captures network data from a host environment.

3.   The network simulation system of claim 2, wherein the filter is a global filter.

4.   The network simulation system of claim 2, wherein the filter is implemented into an operating system of the server.

5.   The network simulation system of claim 4, wherein the filter is implemented between a port handling module, which scans a port for incoming network data, and a processing module, which processes the network data.

6.   The network simulation system of claim 1, wherein the record module comprises a log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

7.   The network simulation system of claim 6, wherein the log restriction/rolling module limits the size of the data collector file by at least one of: (a) deleting at least a portion of the data collector file; (b) moving at least of portion of the data collector file to another machine.

8.   The network simulation system of claim 1, wherein the data collector file comprises a log file, which stores header and tracking information, and a data file, which stores other types of data.

9.   The network simulation system of claim 8, further comprising a caching module that caches at least a portion of incoming network data and subsequently writes the cached data to the log file.

10.   The network simulation system of claim 1, further comprising a playback module that resides on the playback machine and plays back the recorded network characteristics.

11.   The network simulation system of claim 10, wherein the playback machine is a client and the recorded network characteristics are played back to a testing server.

12.   The network simulation system of claim 10, wherein the playback module comprises a data collector file reader that reads at least a portion of the recorded network characteristics stored in the data collector file.

13.   The network simulation system of claim 12, wherein the data collector file comprises a log file, which stores header information, and data file, which stores other network data.

14.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and the playback module comprises a controller and a controller mapping table that determines to which client the testing server should send a played back request.

15.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and each client comprises a client mapping table that is used to time out a user.

16.   A network simulation system for playing back recorded network characteristics, comprising:

a data collector file that contains network data that has been recorded by a filter that resides on a recording server; and

a playback module that resides on a playback machine and plays back the data collector file;

wherein the network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

17.   The network simulation system of claim 16, wherein the network data includes header data and the data collector file comprises a log file, which stores he header data, and a data file, which stores the remainder of the network data.

18.   The network simulation system of claim 16, wherein the playback machine is a client machine in communication with the testing server.

19.   The network simulation system of claim 18, wherein the playback module comprises a data collector file reader capable of accessing the network data within the data collector file.

20.   A method of simulating computer network characteristics on a testing server, comprising:

recording network data using a filter residing on a recording server;

storing the recorded network data; and

playing back the recorded network data on a playback machine in communication with the testing server.

21.   The method of claim 20, wherein recording comprises capturing the network data from a host environment of the recording server.

22.   The method of claim 21, wherein recording further comprises caching the captured network data prior to storing the network data.

23.   The method of claim 22, wherein the network data comprises header data and body data and network data is cached until all the header data has been captured.

24.   The method of claim 20, wherein the network data comprises header data and body data and the recorded network data is stored in a data collector file comprising a log file, which stores the header data, and a data file, which stores the body data.

25.   The method of claim 24, wherein the header data is cached until all of the header data has been recorded and the cached header data is stored in the log file.

26.   The method of claim 24, wherein recording comprises assigning a unique value to each user in communication with the recording server to identify the user.

27.   The method of claim 26, wherein the unique value is stored in the log file.

28.   The method of claim 20, further comprising tracking network information from the recording server.

29.   The method of claim 28, wherein the network information includes at least one of: (a) a user that sent a request; (b) what time a request was sent by a user; (c) when a socket was opened; (d) when a socket was closed; (e) a status code of the recording server.

30.   The method of claim 20, wherein the playback machine is a client machine.

31.   The method of claim 30, wherein the testing server is in communication with a second client and playing back comprises using a controller mapping table to assign a user to a client such that all recorded network data from the user is played back on the same client.

32.   The method of claim 30, wherein the client machine can simulate multiple

users by playing back the recorded network data.

33.   A computer-readable medium having computer-executable instructions for performing the method recited in claim 20.

34.   A method of recording network characteristics, comprising:
    providing a server having an operating system;
    registering a filter residing on the server with the operating system;
    using the filter to capture network data containing the network characteristics; and
    storing the captured network data in a data collector file for playback.

35.   The method of claim 34, wherein the filter is a global filter and the global filter is implemented within the server operating system.

36.   The method of claim 34, wherein the network data comprises header data and the data collector file comprises a log file that stores header data and a data file that stores any remaining network data.

37.   The method of claim 36, wherein captured header data is cached in memory prior to be stored in the log file.

38.   The method of claim 37, wherein the captured header data is cached until all the header data has been received and then the header data is stored in the log file and any remaining network data is stored in the data file.

39.   A network simulation system for recording network characteristics of a computer network, comprising:
    a record module located on a server on the computer network; and
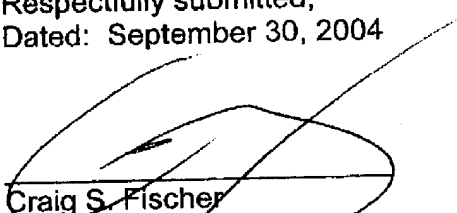   a custom-generated log file generated by the record module that stores the recorded network characteristics;

wherein the custom-generated log file is not a server log file of the server.

40.   A method of recording network characteristics on a computer network having a server, comprising using a record module disposed on the server to produce a custom-generated log file containing network characteristics, wherein the custom-generated log file is separate from a standard server log file of the server.

Respectfully submitted,
Dated: September 30, 2004

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1 of 7

1.   A network simulation system for simulating network characteristics, comprising:

        a record module having a filter that resides on a server and records network characteristics;

        a data collector file that stores the recorded network characteristics for playback on a playback machine.

2.   The network simulation system of claim 1, wherein the record module comprises a filter that captures network data from a host environment.

3.   The network simulation system of claim 2, wherein the filter is a global filter.

4.   The network simulation system of claim 2, wherein the filter is implemented into an operating system of the server.

5.   The network simulation system of claim 4, wherein the filter is implemented between a port handling module, which scans a port for incoming network data, and a processing module, which processes the network data.

6.   The network simulation system of claim 1, wherein the record module comprises a log restriction/rolling module that is capable of limiting a size of the data collector file that stores the recorded network characteristics.

7.   The network simulation system of claim 6, wherein the log restriction/rolling module limits the size of the data collector file by at least one of: (a) deleting at least a portion of the data collector file; (b) moving at least of portion of the data collector file to another machine.

8.   The network simulation system of claim 1, wherein the data collector file comprises a log file, which stores header and tracking information, and a data file, which stores other types of data.

9.   The network simulation system of claim 8, further comprising a caching module that caches at least a portion of incoming network data and subsequently writes the cached data to the log file.

10.   The network simulation system of claim 1, further comprising a playback module that resides on the playback machine and plays back the recorded network characteristics.

11.   The network simulation system of claim 10, wherein the playback machine is a client and the recorded network characteristics are played back to a testing server.

12.   The network simulation system of claim 10, wherein the playback module comprises a data collector file reader that reads at least a portion of the recorded network characteristics stored in the data collector file.

13.   The network simulation system of claim 12, wherein the data collector file comprises a log file, which stores header information, and data file, which stores other network data.

14.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and the playback module comprises a controller and a controller mapping table that determines to which client the testing server should send a played back request.

15.   The network simulation system of claim 11, wherein the testing server is connected to at least one other client and each client comprises a client mapping table that is used to time out a user.

16.   A network simulation system for playing back recorded network characteristics, comprising:

a data collector file that contains network data that has been recorded by a filter that resides on a recording server; and

a playback module that resides on a playback machine and plays back the data collector file;

wherein the network data is sent by the playback to a testing server to simulate network characteristics on the testing server.

17. The network simulation system of claim 16, wherein the network data includes header data and the data collector file comprises a log file, which stores he header data, and a data file, which stores the remainder of the network data.

18. The network simulation system of claim 16, wherein the playback machine is a client machine in communication with the testing server.

19. The network simulation system of claim 18, wherein the playback module comprises a data collector file reader capable of accessing the network data within the data collector file.

20. A method of simulating computer network characteristics on a testing server, comprising:

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storing the recorded network data; and

playing back the recorded network data on a playback machine in communication with the testing server.

21. The method of claim 20, wherein recording comprises capturing the network data from a host environment of the recording server.

22. The method of claim 21, wherein recording further comprises caching the captured network data prior to storing the network data.

23.   The method of claim 22, wherein the network data comprises header data and body data and network data is cached until all the header data has been captured.

24.   The method of claim 20, wherein the network data comprises header data and body data and the recorded network data is stored in a data collector file comprising a log file, which stores the header data, and a data file, which stores the body data.

25.   The method of claim 24, wherein the header data is cached until all of the header data has been recorded and the cached header data is stored in the log file.

26.   The method of claim 24, wherein recording comprises assigning a unique value to each user in communication with the recording server to identify the user.

27.   The method of claim 26, wherein the unique value is stored in the log file.

28.   The method of claim 20, further comprising tracking network information from the recording server.

29.   The method of claim 28, wherein the network information includes at least one of: (a) a user that sent a request; (b) what time a request was sent by a user; (c) when a socket was opened; (d) when a socket was closed; (e) a status code of the recording server.

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32.   The method of claim 30, wherein the client machine can simulate multiple

users by playing back the recorded network data.

33. A computer-readable medium having computer-executable instructions for performing the method recited in claim 20.

34. A method of recording network characteristics, comprising:
 providing a server having an operating system;
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 storing the captured network data in a data collector file for playback.

35. The method of claim 34, wherein the filter is a global filter and the global filter is implemented within the server operating system.

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37. The method of claim 36, wherein captured header data is cached in memory prior to be stored in the log file.

38. The method of claim 37, wherein the captured header data is cached until all the header data has been received and then the header data is stored in the log file and any remaining network data is stored in the data file.

39. A network simulation system for recording network characteristics of a computer network, comprising:
 a record module located on a server on the computer network; and
 a custom-generated log file generated by the record module that stores the recorded network characteristics;
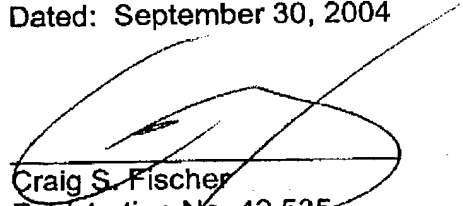
wherein the custom-generated log file is not a server log file of the server.

40. A method of recording network characteristics on a computer network having a server, comprising using a record module disposed on the server to produce a custom-generated log file containing network characteristics, wherein the custom-generated log file is separate from a standard server log file of the server.

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Dated: September 30, 2004

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